312772

REGION II RST2 HEALTH AND SAFETY PLAN
EMERGENCY RESPONSE / REMOVAL ASSESSMENT
(Revised 1 Jan 2009)

TDD No. TO-0013-0085 **Site Name**: Sweet Kleen Laundry Site

Site Address: 760 Kensington Ave.
Buffalo
Erie County, New York

Directions to Site: (Attach Map Following This Page)
Take I-287-N to Exit 21B (I-78W Easton, PA). Then take Exit 71 to merge with PA-33N toward US-22/Stroudsburg. Take the exit left toward I-80W Hazleton. Take Exit 293 and merge onto I-380N toward Scranton. Take the exit toward I-81N toward Binghamton. Take the exit onto I-690W toward Fairgrounds/Baldwinsville. Take the exit to merge onto I-90W/New York State Thruway W. Take exit 51W to merge onto Kensington Expressway/RT-33 toward Buffalo. Take the exit toward Grider St. and merge onto Warwick Ave. Turn right at Deerfield Ave. Turn right at Kensington Ave.

Historical/Current Site Information:
The Sweet Kleen Laundry Site is located in Buffalo, Erie County, New York. Founded in 1925, Sweet Kleen Laundry operated a commercial laundry business on this 2-acre site property until the 1990's when they abandoned the facility. The property was acquired by the City of Buffalo through a process known as "in-rem" for vacant properties. The City of Buffalo subsequently inspected and secured the Sweet Kleen building. The City of Buffalo and the New York State Department of Environmental Conservation (NYDEC) requested EPA's assistance in conducting a Removal Action at the Site.

EPA completed Phase I of the Removal Action in 2006, which included the demolition of a 100 foot chimney and the removal of on-site structures, asbestos, 50 drums of waste products and electrical transformers. Also, during this cleanup phase, soil contaminated with perchloroethylene was excavated from a small section of the site and staged for future removal to an off-site disposal facility. EPA installed a passive Soil Vapor Extraction (SVE) system at Site. RST 2 has been tasked to collect a sample of the effluent generated from this SVE system.

RST 2 Scope of Work:
RST 2 has been tasked to collect one soil gas sample from the exhaust port of the SVE system. The sample will be analyzed via EPA Method TO-15.

Incident Type:
( ) Emergency Response -
( ) Removal Assessment -
( ) Residential Sampling / Investigation -
( ) PRP Oversight -
(X) Other - Soil Vapor Extraction System at a former hazardous waste site.

Location Class: ( ) Industrial (X) Commercial ( ) Urban/Residential ( ) Rural

U.S. EPA Contact: Kevin Matheis
Original HASP: No
Lead RST2: Sayed Iqbal

Date of Initial Site Activities: 09/10/09
Modification Number: 02
Site Health & Safety Coordinator: Sayed Iqbal
Health & Safety Alternate: None

Response Activities/Dates of Response (fill in as applicable)

Emergency Response:
( ) Perimeter Recon.
( ) Site Entry
( ) Visual Documentation
( ) Multi-Media Sampling
( ) Decontamination

Assessment:
( ) Perimeter Recon.
(X) Site Entry: Soil Gas (9/10 – 9/11/09)
( ) Visual Documentation
(X) Multi-Media Sampling – Soil Gas Sampling (9/10 – 9/11/09)
( ) Decontamination

Physical Safety Hazards to Personnel

( ) Heat – *Attach FLD05*
(X) Precipitation - *Attach FLD02*
( ) Cold – *Attach FLD06*
( ) Terrain - *Attach FLD11*

( ) Walking/Working Surfaces
( ) Oxygen Deficiency
( ) Overhead Utilities
( ) Unknowns in Drums, Tanks
( ) Waterways – *Attach FLD19*
( ) Use of Boats – *Attach FLD 18*
( ) Illumination – *Attach FLD39*
( ) Nonionizing Radiation
( ) Excavations– *Attach FLD28*
( ) Fire & Explosion
( ) Drum Handling – *Attach FLD 58*
( ) Drilling Safety – *Attach FLD56*
( ) Underground Utilities– *Attach FLD34*
( ) Heavy Equipment – *Attach FLD22*
( ) Ponds, Lagoons, Impoundments
( ) Pressurized Containers, Systems - *Attach FLD16*
( ) Confined Space
( ) Noise- *Attach CECHSP, Section 7*
( ) Ionizing Radiation
( ) Elevated Work Surfaces / Manlifts - *Attach FLD24*
( ) Working Elevation / Fall Protection – *Attach FLD 25*

Biological Hazards to Personnel

( ) Infectious/Medical/Hospital Waste - *Attach FLD 44 and 45*
( ) Non-domesticated Animals – *Attach FLD43A*
( ) Insects – *Attach FLD43B*
( ) Poisonous Plants/Vegetation – *Attach FLD43D*
( ) Raw Sewage
( ) Bloodborne Pathogens– *Attach FLD 44 and 45*

Training Requirements

(X) 40-Hour HAZWOPER Training with three days supervised experience
( ) 24-Hour Course for limited, specific tasks with one day supervised experience
(X) 8-Hour Annual Refresher Health and Safety Training
( ) 8-Hour Management/Supervisor Training in addition to basic training course
( ) Site Specific Health and Safety Training
( ) Pre-entry training for emergency response skilled support personnel

Medical Surveillance Requirements

(X) Baseline initial physical examination with physician certification
(X) Annual medical examination with physician certification
( ) Site Specific medical monitoring protocol (Radiation, Pesticides, PCBs, Metals)
( ) Asbestos Worker medical protocol
( ) Exempt from medical surveillance _____.
(X) Examination required in event of chemical exposure or trauma

Vehicle Use Assessment and Selection

Driving is one of the most hazardous and frequent activities for Weston Employees. As such, Weston Employees are required to adhere to established safe operating practices in order to maintain their eligibility to drive Weston owned, leased, or rented vehicles. Every person riding in a Weston vehicle, including passengers must maintain a commitment for a safe journey. This means being attentive while in the vehicle and helping the driver to notice hazards ahead of and around the vehicle and ensure that their presence does not distract the driver from safely operating the vehicle.

A high percentage of vehicle accidents occur when operating in reverse. Anytime a vehicle is operated in reverse, e.g., backing out of a parking area, if there are passengers, at least one of them are to assist the driver by acting as a guide person during the reverse movement or during other vehicle operation where it would be prudent to have a guide person(s) participate in the vehicle movement. When practical, the preferred parking method would be to back into the parking area.

At a minimum, each Weston Driver must:

- Possess a current, valid drivers' license
- Obey posted speed limits and other traffic laws
- Wear seat belts at all times while the vehicle is in operation
- Conduct a 360 degree inspection around the vehicle before attempting to drive the vehicle
- Report accidents / incidents immediately and complete a Notice of Incident (NOI)
- Keep vehicles on approved roadways (FWD doesn't guarantee mobility on unapproved surfaces)

All Region II RST 2 personnel are experienced and qualified to drive RST 2 fleet vehicles (Trailblazers, Suburbans, Cargo Van, and 10' x 12' Box Truck). However, in the event that vehicle rental is required, each person must take the time to familiarize themself with that particular vehicle. This familiarization includes adjustment of the dashboard knobs/controls, mirrors, steering wheel, seats, and a 360 degree external inspection of the vehicle.

1. The following vehicles are anticipated to be used on this project:

( ) Car
( ) Pickup Truck
(X) Intermediate / Standard SUV (e.g. Chevy Trailblazer, Chevy Tahoe, Jeep Liberty, Ford Explorer)
( ) Full Size SUV (e.g., Chevy Suburban, Ford Expedition, GMC Yukon)
( ) Minivan / Cargo Van
( ) Box Truck (Size:_____) or Emergency Response Vehicle (ERV)
( ) Other _____

2. Are there any on-site considerations that should be noted: No

( ) Working/Driving Surfaces, ( ) Debris, ( ) Overhead Clearance, ( ) Obstructions, ( ) Tire Puncture Hazards, ( ) Vegetation, ( ) Terrain, ( ) Parking, ( ) Congestion, ( ) Site Entry/Exit Hazards, ( ) Local Traffic Volume, ( ) Security, ( ) Heavy Equipment, ( ) Time/Length of Work Day

Do any of the considerations above require further explanation:

_____

_____

3. Are there any seasonal considerations that should be noted (e.g., Anticipated Snowy Conditions):

No

_____

_____

4. Is a Traffic Control Plan required? ( ) Yes / (X) No.
If so, the Traffic Control Plan must be attached to this Health & Safety Plan.

Chemical Hazards to Personnel

Physical Parameters	**Chemical Contaminant Tetrachloroethylene (PCE)**
Exposure Limits IDLH Level	100 ppm 678 mg/m^3 PEL 125 ppm 847.5 mg/m^3 TLV 150 ppm 1,017 mg/m^3 IDLH
Physical Form (Solid/Liquid/Gas) Color	____ Solid X Liquid ____ Gas Colorless Color
Odor	Chloroform-like odor
Flash Point Flammable Limits	NA Degrees F or C NA % UEL NA % LEL
Vapor Pressure Vapor Density	14 mm/Hg ____ Air = 1
Specific Gravity	1.62 Water = 1
Solubility	0.02 %
Incompatible Material	Strong oxidizers; chemically-active metals such as lithium, beryllium & barium; caustic soda; sodium hydroxide; potash
Routes of Exposure	X Inh X Abs X Con X Ing
Symptoms of Acute Exposure	Irritation eyes, skin nose, throst, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache; drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]
First Aid Treatment	Eye: Irrigate immediately Skin: soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
Ionization Potential	9.32 eV
Instruments for Detection	X PID w/ 10.6 Probe ____ FID ____ CGI ____ RAD X Det Tube ____ pH Other Air Sampling (EPA TO-15)

Control Measures

Site Map with work zones:

Work Zone Definitions:

Exclusion Zone - the area where contamination is either known or expected to occur and the greatest potential for exposure exists. The outer boundary of the Exclusion Zone, called the Hotline, separates the area of contamination from the rest of the site.

Contamination Reduction Zone (CRZ) - the area in which decontamination procedures take place. The purpose of the CRZ is to reduce the possibility that the Support Zone will become contaminated or affected by the site hazards.

Support Zone - the uncontaminated area where workers are unlikely to be exposed to hazardous substances or dangerous conditions. The Support Zone is the appropriate location for the command post, medical station, equipment and supply center, field laboratory, and any other administrative or support functions that are necessary to keep site operations running efficiently.

Communications:

( ) Buddy System ( ) Radio ( ) Air Horn for emergencies
( ) Hand Signals ( ) Visual Contact

Personnel Decontamination Procedures:

( ) Wet Decontamination (procedures as follows)
(X) Dry Decontamination (procedures as follows)

Removal of nitrile gloves and dispose in a proper receptacle

Equipment Decontamination Procedures:

(X) None
( ) Wet Decontamination (procedures as follows)
( ) Dry Decontamination (procedures as follows)

Adequacy of decontamination determined by: RST 2 Health and Safety Officer

Personal Protective Equipment

TASK TO BE PERFORMED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	APR CARTRIDGE TYPE or SCBA
Collection of 1 Soil Gas Sample	Modified Level D	Coverall	Nitrile gloves	N/A

Frequency and Types of Air Monitoring: ( ) Continuous ( ) Routine - _____ ( ) Periodic -

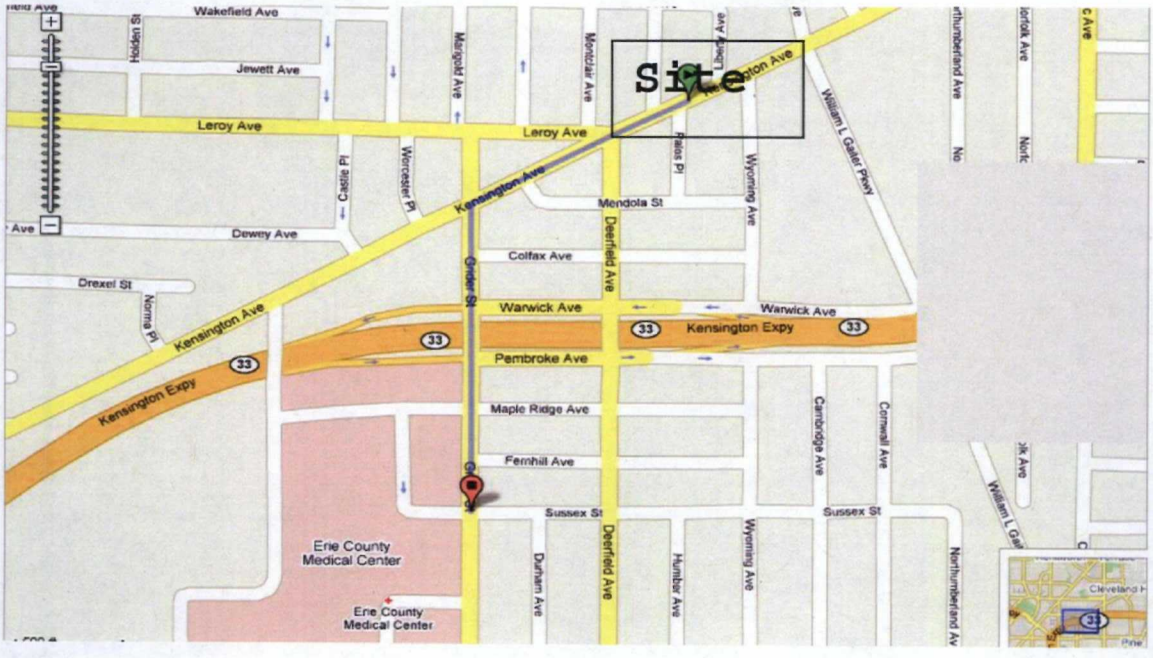
DIRECT READING INSTRUMENTS	**MultiRAE** CGI / O2 / H2S / CO / PID	**Ludlum 19** Micro-R Meter / **Ludlum Model 3** Survey Meter	**MicroFID** or **TVA-1000**	**Drager** Chemical Detector Tube	**Lumex Mercury Vapor Analyzer** or **Jerome 431X**
EQUIPMENT ID NUMBER					
CALIBRATION DATE					
RST 2 PERSONNEL					
ACTION LEVEL	≥ 10 - 20% LEL (Confined Space / non-Confined Space) ≤ 19.5%, O_2 Deficient ≥ 23% O_2 - Enriched	<3X Background Exercise Caution; ≥ 1 mR/HR – Exit Area, Establish Perimeter, Contact RST 2 HSO	Unknowns: 1 - 5 Units - "Level C" 5-500 Units- "Level B"	PEL / TLV / IDLH: Compare with Drager Tube	Mercury Vapors (Except Organo Alkyls): PEL - 0.1 mg/m3 IDLH – 10 mg/m3

Emergency Telephone Numbers

Emergency Contact	Location	Phone Number	Notified
Hospital	Erie County Medical Center 426 Grider St. Buffalo, NY 14215 716-898-3000	716-898-3000 911	No
Ambulance	(716) 898-3000 - Buffalo, NY	911	
Police	(716) 851-4416 - Buffalo, NY	911	
Fire Department	(716) 838-1219 - Buffalo, NY	911	

Chemical Trauma Capability? (X) Yes ( ) No
If no, closest backup: _____ Phone:

Directions to Hospital (Attach Map Following This Page):
Make a LEFT onto Kensington Ave. and go southwest for 0.2 miles. Make a LEFT onto Grider St. The Hospital on the RIGHT.



Route verified by: _____ Date: 9/10/09

Additional Emergency Phone Contacts

WESTON Medical Emergency Service Dr. Peter Greaney, Medical Director WorkCare 300 South Harbor Blvd, Suite 600 Anaheim, California 92805	800-455-6155 Regular Business Hours (9AM to 7:30PM) **Dial 0 or Ext. 175 for Michelle Bui to request the on-call clinician.** 800-455-6155 After Hours (Weekdays 7:31PM to 8:59AM, Weekends, Holidays) **Dial 3 to reach the after-hours answering service. Request that the service connect you with the on-call clinician or the on-call clinician will return your call within 30 minutes.**
Chemtrec	800-424-9300
ATSDR	404-639-0615
ATF (explosives information)	800-424-9555
National Response Center	800-424-8802
National Poison Control Center	800-764-7661
Chemtel	800-255-3924
DOT	800-424-8802
CDC	800-232-0124

Pre-Response Approval

HASP prepared by: Sayed Iqbal Date: 09/08/09
Pre-Response/Entry Approval by: _____ Date: 9/9/09

Verbal Approval/Modification to Original HASP by: _____ Date: __/__/

Action Taken On-Site:

Perimeter Monitoring:( ) Yes ( ) No
Site entry by RST2: (x) Yes( ) No

Tasks Conducted	Level of Protection/Specific PPE Used
Soil Gas Sampling	Level D modified

Hazardous Waste Site and Environmental Sampling Activities

Off Site: ( ) Yes (X) No
On Site: (X) Yes ( ) No

Describe types of samples and methods used to obtain samples:
There will be one soil gas sample collected from the existing SVE system. RST 2 will use a Summa canister to collect the sample which will be analyzed by EPA Method TO-15. The sample will be collected for a 24-hour period and analyzed for VOCs.

Was laboratory notified of potential hazard level of samples? (X) Yes ( ) No

Note: The nature of the work assignment may require the use of the following procedures/programs which will be included as attachments to this HASP as applicable: Emergency Response Plan, Confined Space entry Procedures, Spill Containment Program.

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Removal Support Team 2 (RST2) Contract EP-W-06-072. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

The signatures below indicate that the individuals have read and understood this Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
SAYED IQBAL	Sayed Iqbal	RST2/WESTON	9/9/09
Kevin Mathieu	Kevin Mathieu	EPA	9/10/09

Post-Response Approval

Final Submission of HASP by:		Date
Post Response Review by:		
Post Response Approval by:		
RST2 HSO Review by:		

COMMENTS/FOLLOW UP

Air Monitoring Summary Log

Date: __/__/
Data Collected by:

Station/Location	CGI/O_2 Meter	Radiation Meter	PID	FID	Other (_____)

FLD 02 INCLEMENT WEATHER

Hot weather (ambient temperatures over 70°F), cold weather (ambient temperatures below 40°F), rain, snow, ice, and lightning are examples of inclement weather that may be hazardous or add risk to work activities. Extremes of heat, cold, and humidity, as well as rain, snow, and ice, can adversely affect monitoring instrument response and reliability, respiratory protection performance, and chemical protective clothing materials.

RELATED FLDs AND OP

FLD 05 – Heat Stress Prevention and Monitoring
FLD 06 – Cold Stress
OP 05-03-008 – Inclement Weather & Business Disruption Policy

PROCEDURE

The potential for exacerbating the impact of physical hazards must be considered for tasks that expose personnel to inclement weather. Risk assessment and hazards analysis should be accomplished during the planning stages of a project for the most likely inclement weather conditions that may be encountered, i.e., rain and lightning in late spring, summer, and early fall, or lightning prone areas; cold, snow, and ice in winter. The Field Safety Officer (FSO) must determine the proper safety procedures and recommend them to the site manager. Each worker must evaluate the risk associated with his/her work and be actively alert to these hazards. Managers and workers must be familiar with the requirements of FLD 05 and FLD 06.

A pre-site activity risk assessment must be completed when inclement weather occurs. Weather conditions that affect instruments and personal protective equipment (PPE) function must be conveyed to site workers who should monitor function and integrity of PPE and be alert to changing weather conditions. A decision must be made on the proper safety procedures to use if work must continue, or to stop work if the risk is too great. The appropriate Safety Professional **must be notified of all instances of the need to stop work for safety reasons, including inclement weather**.

Heat

Hot, dry weather increases risk of soil drying, erosion, and dust dispersion, which may present or increase risk of exposure and environmental impact from toxic hazards. Hot weather will increase pressure on closed containers and the rate of volatilization, thereby potentially increasing the risk of exposure to toxic, flammable, or explosive atmospheres.

Prevention and Protective Measures

Employees must be protected from airborne contaminants using engineering controls such as wetting dry soil to prevent particle dispersion, and providing local ventilation to reduce volatile air contaminants to safe levels, or if engineering controls are infeasible, using prescribed PPE. Wind shifts and velocity should be measured where change may result in dispersion of airborne contaminants into the work area.

Rain, Wet Weather, and High Humidity

Wet conditions resulting from rain and wet weather increase slipping and tripping hazards, braking distances of vehicles, the potential for vehicle skidding, or difficulties in handling powered devices such as augers and drills. Rain fills holes, obscures trip and fall hazards, and increases risk of electrical shock

when working with electrical equipment. Changes in soil conditions caused by rain can impact trenching and excavating activities, creating the potential for quicksand formation, wall collapse, and cave-in. Vehicles become stuck in mud, and tools and personnel can slip on wet surfaces. Rain and wet conditions may decrease visibility (especially for personnel wearing respiratory protection) and limit the effectiveness of certain direct-reading instruments (e.g., photoionization detectors [PIDs]).

Feet that become wet and are allowed to remain wet can lead to serious problems under both heat and cold conditions. Activities that may result in wet feet include extended work in chemical protective clothing and wading in water/liquid during biological assessments. Trench foot, paddy foot, and immersion foot are terms associated with foot ailments resulting from feet being wet for long periods of time. All have similar symptoms and effects. Initial symptoms include edema (swelling), tingling, itching, and severe pain. These may be followed by more severe symptoms including blistering, death of skin tissue, and ulceration. (NOTE: The following Preventive and Protective Measures also apply to Cold, Snow, and Ice.)

Preventive and Protective Measures

Walkways, stairs, ladders, elevated workplaces, and scaffold platforms must be kept free of mud, ice, and snow. Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.

Vehicles used in rain or cold weather must have working windshield wipers and defrosters, and windows must be kept clear of obstruction.

Drivers must observe traffic laws, including maintaining speed within limits safe for weather conditions, and wearing seat belts at all times. Note that this may mean operating below the posted speed limit.

When walking, workers should use a walking stick or probe to test footing ahead where there is standing water, snow, or ice to protect the walker against stepping into potholes or onto puncture hazards, buried containers, or other potential structurally unsound surfaces.

Prior to using vehicles or equipment in off-road work, workers should walk the work area or intended travelway when puddles or snow may obscure potholes, puncture hazards, or buried containers, or other potential structurally unsound surfaces.

Project managers should arrange to have winches, come-alongs, or other mechanical assistance available when vehicles are used in areas where there is increased risk of getting stuck. Cable or rope and mechanical equipment used for pulling stuck vehicles must be designed for the purpose, of sufficient capacity for the load, and be inspected regularly and before use to ensure safety. **Manually pushing stuck vehicles is to be avoided**.

Prevention methods are required when work is performed in wet conditions or when conditions result in sweating, causing the feet to become and remain wet. Proper hygiene is critical. Workers must dry their feet and change socks regularly to avoid conditions associated with wet feet. Use of foot talc or powder can additionally assist in prevention of this type of condition.

Cold, Snow, and Ice

Cold weather affects vehicle operation by increasing difficulty in starting and braking. Ice, frost, and snow can accumulate on windows and reduce vision. Cold, wet weather can cause icing of roadways,

driveways, parking areas, general work places, ladders, stairs, and platforms. Ice is not always as obvious to see as snow or rain, and requires special attention, especially when driving or walking.

Snow and ice increase the risk of accidents such as slipping when walking, climbing steps and ladders, or working at elevation, and the risk of accidents when driving vehicles or operating heavy equipment. Heavy snow and ice storms may cause electric lines to sag or break, and the use of electrical equipment in snow increases the risk of electric shock. Snow can hide potholes and mud, which can result in vehicles getting stuck or persons falling when stepping into hidden holes. Snow also may cover water, drums or other containers, sharp metal objects, debris, or other objects that can cause falls or punctures.

Preventive and Protective Measures

WESTON personnel are cautioned against operating motor vehicles such as cars or trucks on ice under any circumstances. If traveling in icy conditions, WESTON personnel should follow all public service advisories that curtail driving activities.

Personnel performing activities that require working over ice should be aware of minimal ice thickness safety guidelines as follows:

- 4-inch minimum: activities such as walking or skating.
- 6-inch minimum: activities such as snowmobiling or the use of equipment with the same weight and cross-sectional area as a snowmobile.

Personnel should always be aware that these measurement guidelines are under ideal conditions and that snow cover, conditions on rivers, ponds, or lakes with active currents, and other environmental factors impact the safety of working on ice. Clear ice typically is the strongest, while ice that appears cloudy or honeycombed (contains entrained air) is not as structurally strong. Measurements made by drilling or cutting through the ice should be made every few feet to verify safe conditions. Provisions for rescue (e.g., ladders or long poles and effective communications) must be available at the work site.

Lightning

Lightning represents a hazard of electrical shock that is increased when working in flat open spaces, elevated work places, or near tall structures or equipment such as stacks, radio towers, and drill rigs. Lightning has caused chemical storage tank fires and grass or forest fires. Static charges associated with nearby electrical storms can increase risk of fire or explosion when working around flammable materials, and can adversely affect monitoring instruments.

Lightning is the most dangerous and frequently encountered weather hazard people experience each year. Lightning affects all regions. **Florida, Michigan, Pennsylvania, North Carolina, New York, Ohio, Texas, Tennessee, Georgia, and Colorado** have the most lightning deaths and injuries.

Preventive and Protective Measures

Prior to working in areas or beginning projects when or where there is an increased potential for lightning striking personnel, steps must be taken to predict the occurrence of lightning strikes. Recommendations include:

- Check with client management to determine if there are any patterns or noted conditions that can help predict lightning or if there are structures that are prone to lightning strikes. Arrange for

client notification when there is increased potential for lightning activities. Ensure that clients include WESTON workers in lightning contingency plans.

- Monitor weather reports.
- Note weather changes and conditions that produce lightning.
- Stop work in open areas, around drill rigs or other structures that may attract lightning, on or in water and in elevated work places when lightning strikes are sighted or thunder is heard near a work site.
- Ensure all personnel are provided with safe areas of refuge. Prevent personnel from standing in open areas, under lone trees, or under drill rigs.
- Observe the "30-30" Rule. If you see lightning and thunder is heard within 30 seconds (approximately 6 miles), seek shelter. If you hear thunder, but did not see the lightning, you can assume that lightning is within 6 miles and you should seek shelter. Remain in the sheltered location for 30 minutes following the last lightning strike.
- Use a hand held static potential meter (lightning detection device) to monitor the potential difference between a cloud and the ground. When the measured potential is greater than 2 kV/m, there is a potential for a lightning strike – seek shelter.

High Wind and Tornado Safety

High Winds

Many construction workers have died due to wind-related accidents and injuries. A ladder that seems secure under normal circumstances can become unstable during windy conditions and cause you to fall. Scaffolding that is improperly secured can rip free during strong winds and kill bystanders. The risk of injury for construction workers increases during strong winds. Keep in mind that changing weather conditions can affect your daily work tasks, and make sure you have a game plan to prevent proper damage and personal injury.

Stay Informed: With today's modern technology available at the touch of a button, you should keep up to date with the latest local weather reports. Visit weatherbug.com or weather.gov to stay informed in case of wind warnings, watches, and advisories. Larger projects may have their own weather station on site to provide instant weather data. Use daily hazard assessments to determine if working conditions have changed or will change throughout the day.

Be Prepared: When you know the weather will be windy, secure loose building materials, scaffolding and fencing that could be picked up or torn loose by strong winds and thrown onto surrounding streets, structures, vehicles, or bystanders.

Know the Limits of Your Equipment: When operating any equipment, take time to read the operator's manual and become familiar with the wind specifications. Many crane manufacturers have high-wind guidelines to prevent you from operating a crane in unsafe weather. You should also check safety equipment such as fall protection to determine if it is adequate for windy conditions.

Know the Terminology

Severe Thunderstorm Watch

A Severe Thunderstorm Watch means that strong thunderstorms capable of producing winds of 58 mph or higher and/or hail 3/4 inches in diameter or larger are possible. If you are in the area of a Severe Thunderstorm Watch, you should be prepared to take shelter from thunderstorms. Severe Thunderstorm Watches are generally issued for 6-hour periods.

Severe Thunderstorm Warning

A Severe Thunderstorm Warning means that thunderstorms capable of strong winds and/or large hail are occurring or could form at any time. If you are in the area of a severe thunderstorm, you should take shelter indoors immediately, avoid windows, and be prepared for high winds and hail. Severe Thunderstorm Warnings are generally in effect for an hour or less.

High Wind Watch

A High Wind Watch is issued when sustained winds exceeding 40 mph and/or frequent gusts over 60 mph are likely to develop in the next 24 to 48 hours. For summit areas, high wind watches are issued when sustained winds are expected to exceed 45 mph and/or frequently gust over 60 mph. If you are in an area for which a High Wind Watch has been issued you should secure loose objects outdoors that may blow about and avoid outdoor activity that exposes you to high winds.

High Wind Warning

A High Wind Warning is issued when sustained winds exceeding 40 mph and/or frequent gusts over 60 mph are occurring or imminent. For summit areas, warnings are issued for winds exceeding 45 mph and/or frequently gusting over 60 mph. Wind warnings may issued up to 24 hours ahead of the onset of high winds and remain in effect for 6 to 12 hours. If you are in an area where a high wind warning is in effect you should avoid activities that expose you to high winds. Loose objects may be blown around. Tree limbs may break and fall. Power lines may be blown down.

Wind Advisory

A Wind Advisory is issued when sustained winds of 30 to 39 mph and/or frequent gusts to 50 mph or greater are occurring or imminent. Wind advisories may be in effect for 6 to 12 hours. If you are in an area where a wind advisory is in effect you should secure loose objects that may be blown about outdoors and limit activity that may expose you to high winds.

Work Safely: If you will be working on a windy day, you should be alert and protected. Wear eye protection to prevent dust and other particles from entering or striking your eyes. Keep your hard hat on at all times to prevent injuries from falling or flying objects. The likelihood of falls from heights is greatly increased by strong winds. Wear the necessary PPE to ensure your safety.

To avoid flying debris and to minimize damage during high winds:

- Shut down outdoor activities involving work at elevation on ladders, scaffolding, aerial lifts, etc.; handling large tarps and plastic sheeting when wind speeds exceed 25 mph; including work with radioactive materials and highly toxic materials that could be dispersed by the winds.
- At 13 - 18 mph wind will raise dust. Follow the dust action level.

- Move mobile items stored outside to indoor storage.
- Secure any items that cannot be moved inside.
- Be careful opening exterior doors.
- Be cautious about downed power lines, tree limbs, and debris on roads.
- Be alert for animals who have escaped from farms and zoos.

Stay Away from Power Lines: High winds can cause tree limbs to fall on power lines resulting in electrocution hazards or loss of power. Your best bet is to keep your distance.

Tornados

What is a TORNADO?

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm or as a result of severe weather associated with hurricanes. A funnel cloud is formed as cool air overrides a layer of warm air, forcing the warm air to rise rapidly. The damage from a tornado results from high wind velocity and wind blown debris.

Tornado Safety

When a tornado approaches, you have only a brief amount of time to make life-or-death decisions. Advance planning and quick response are the keys to surviving a tornado.

Purchase a NOAA Weather Alert radio with an alert feature. When tuned to the proper frequency, these weather radios remain silent until a weather emergency occurs. Once they pick up the alarm tone, they will begin broadcasting emergency weather information so that citizens can protect themselves and their property. Some models of the NOAA weather radio incorporate the Specific Area Message Encoder technology, allowing users to target only those warnings that affect their immediate geographic area.

Conduct tornado drills. Designate an area to serve as your safe area, and practice having team members assemble there in response to a mock tornado warning.

Emergency Communications Plan. Develop an emergency communications plan in case team members are separated from one another when a tornado warning goes into effect. Designate an emergency coordinator. Instruct everyone to contact this coordinator in a weather emergency for instructions on what to do during the storm and where to reassemble after the emergency has passed. Design contingency plans to be consistent with client contingency plans. When possible use client warning and alerting systems and confirm that team members have access to shelters and know how to get to them.

Know the Difference between a Tornado Watch and a Tornado Warning

Tornado Watch: Issued by the National Weather Service when tornadoes are possible in your area. You should remain alert for approaching storms. Remind family members of where the safe areas are within your home, and carefully monitor radio or television reports for further developments.

Tornado Warning: Indicates that a tornado has been sighted in your area, or is indicated on weather radar. You should proceed to safe shelter immediately.

When A Tornado Warning Goes In Effect, Put Your Safety Plans In Action.

In Your Automobile: Motor vehicles are easily overturned by tornado winds. Leave your vehicle and seek shelter in a sturdy building. As a last resort, seek shelter in a ditch or culvert. Do not try to outrun or outmaneuver a tornado! Use the time to seek appropriate shelter outside your vehicle.

Office Buildings, Hotels, and Shopping Centers: Take shelter in an interior hallway on a lower floor. A closet, bathroom or other small room with short, stout walls will give some protection from collapse and flying debris. Otherwise, get under heavy furniture and stay away from windows. Many tornado deaths have occurred in large buildings due to the collapse of a roof or wide span wall. A corner area, away from a window, is safer than the middle of a wide span wall.

Out In Open Country: When severe weather approaches, seek inside shelter immediately. The chances of encountering falling trees, downed power lines and lightning are far greater than encountering a tornado itself. If a tornado approaches, lie flat in the nearest depression, such as a culvert or ditch, and cover your head with your arms.

BE ALERT TO CHANGING WEATHER CONDITIONS

HAVE AN EMERGENCY WEATHER PLAN IN PLACE

REHEARSE YOUR CONTINGENCY PLANS PERIODICALLY

KNOW WHERE TO GO WHEN A TORNADO THREATENS.